WHAT IS CLAIMED IS:

1.   A method of forming fine patterns comprising: covering a substrate having photoresist patterns with an over-coating agent for forming fine patterns, removing the unwanted over-coating agent that has been deposited on the edge portions and/or the back side of the substrate, applying heat treatment to cause thermal shrinkage of the over-coating agent so that the spacing between adjacent photoresist patterns is lessened by the resulting thermal shrinking action, and removing the over-coating agent substantially completely.

2.   The method of forming fine patterns according to claim 1, wherein the unwanted over-coating agent that has been deposited on the edge portions and/or the back side of the substrate is removed using a remover fluid containing water or a water-soluble organic solvent as a main component.

3.   The method of forming fine patterns according to claim 2, wherein the water-soluble organic solvent is at least one member selected from the group consisting of alcoholic solvents, sulfoxide-based solvents, sulfone-based solvents, amide-based solvents, lactam-based solvents, imidazolidinone-based solvents, lactone-based solvents, glycolic solvents and ether-based solvents.

4.   The method of forming fine patterns according to claim 1, wherein the over-coating agent contains a water-soluble polymer.

5.   The method of forming fine patterns according to claim 4, wherein the water-soluble polymer is at least one member

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selected from the group consisting of alkylene glycolic poly-
mers, cellulosic derivatives, vinyl polymers, acrylic poly-
mers, urea polymers, epoxy polymers, melamine polymers and
amide polymers.

5   6.   The method of forming fine patterns according to claim
1, wherein the over-coating agent is an aqueous solution hav-
ing a solids content of 3 - 50 mass%.

7.   The method of forming fine patterns according to claim
1, wherein the heat treatment is performed at a temperature
10   that does not cause thermal fluidizing of the photoresist
patterns on the substrate.